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EXAMINER

CHOI, PETER Y

ART UNIT

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/687,890	Applicant(s) BAUMGARTNER ET AL.	
	Examiner PETER Y. CHOI	Art Unit 1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 September 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-41 is/are pending in the application.
- 4a) Of the above claim(s) 14-36 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 and 37-41 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

Election/Restrictions

1. Applicants' election of Species I in the reply filed on September 26, 2008, is acknowledged. Although Applicants recite an election with traverse, because Applicants did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)). Claims 14-18 are further withdrawn from consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim.

The requirement is still deemed proper and is therefore made FINAL.

Claim Rejections - 35 USC § 102/103

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-3 and 8 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over USPN 4,187,618 to Diehl.

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Regarding claims 1-3 and 8, Diehl teaches a fiber felt, comprising a fabric including a set of fine top machine direction yarns, a set of coarse bottom machine direction yarns, and a single set of cross machine direction yarns, the cross machine direction yarns being fine cross machine direction yarns, the cross machine direction yarns being interwoven with the top and bottom machine direction yarns in a plurality of repeat units, wherein each of the cross machine direction yarns interweaves with both top and bottom machine direction yarns, and a batt layer overlying and attached to the set of top machine direction yarns of the fabric (see entire document including column 1 line 5 to column 2 line 51, column 3 line 6 to column 4 line 41, column 5 lines 4-11, Figures 1-5). It should be noted that claim 1 recites the transitional phrase “comprising.” The transitional term “comprising”, which is synonymous with “including,” “containing,” or “characterized by,” is inclusive or open-ended and does not exclude additional, unrecited elements or method steps.

Regarding claims 1-3 and 8, the prior art does not specifically teach that the fiber felt is a fiber cement felt. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. Since the prior art teaches a substantially similar structure and composition as the claimed invention, the invention of the prior art appears to be capable of performing the intended use and therefore, the claimed invention is anticipated by or obvious over the prior art.

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Regarding claim 2, the bottom machine direction yarns are twists selected from the group consisting of spun yarns, cross-linked yarns, multifilaments, core wrapped yarns, and combinations thereof (column 4 lines 11-25).

Regarding claim 3, the bottom machine direction yarns are sized between about 300 and 4,500 dtex (column 4 lines 11-25).

Regarding claim 8, the ratio of top machine direction yarns to bottom machine direction yarns is between 2:1 and 5:1 (column 3 lines 30-36).

In the event it is shown that Diehl does not disclose the claimed invention with sufficient specificity, the invention is obvious because Diehl discloses the claimed constituents and discloses that they may be used in combination.

Claim Rejections - 35 USC § 103

4. Claims 4-7, 9-13 and 37-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Diehl, as applied to claims 1-3 and 8 above, and further in view of USPN 6,175,996 to Gstrein.

Regarding claims 4-7, Diehl does not appear to teach that the cross machine direction yarns are selected from the group consisting of single monofilaments and monofilament twists with the claimed diameter, and that the top machine direction yarns are selected from the group consisting of single monofilaments and monofilaments twists with the claimed diameter. Since Diehl is silent as to the type of yarns and the diameters of the yarns, it would have been necessary and therefore obvious to look to the prior art for conventional types of yarns and diameters of those yarns. Gstrein provides this conventional teaching, showing that it was

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known in the art to form a substantially similar papermakers' felt comprising top and bottom machine direction yarns interwoven with cross machine direction yarns (Gstrein, column 1 line 5 to column 3 line 26, column 4 line 35 to column 5 line 40). Gstrein teaches that it was known in the art to vary the weave pattern and yarn sizes and configurations in the based fabric for the desired performance, such as a desired balance of properties including pressure uniformity, flow resistance, void volume, and compressibility. Gstrein teaches that monofilament yarns or twisted filaments having diameters between about 0.02 mm to 0.6 mm. It would have been obvious to one of ordinary skill in the papermakers' felt art at the time the invention was made to form the fiber felt of the prior art, wherein the yarns comprise monofilament yarns or twisted filaments having the diameters as taught by Gstrein, motivated by the desire of forming a conventional fiber felt with types of yarns and yarn diameters known in the fiber felt art to be predictably suitable in forming fiber felts with a desired balance of properties including pressure uniformity, flow resistance, void volume, and compressibility.

Regarding claim 9, Diehl does not appear to teach that the fiber felt further comprises a batt layer attached to and underlying the bottom machine direction yarns. However, Gstrein teaches that it was known in the papermakers' felt art to form a substantially similar fiber felt as Diehl, as set forth above, wherein the felt comprises an upper batt layer overlying the base fabric and a lower batt layer underlying the base fabric (Id., column 5 lines 21-40). Gstrein teaches that the thickness, denier and material of the batt fibers are typically selected for their contribution to the desired performance properties of the overall felt (Id., column 1 lines 48-52). Additionally, naturally flows from the teachings of the prior art that applying multiple layers of batts to the fiber felt provides uniform qualities of strength and stability while additionally varying the

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drainage of the felt due to the inclusion of an additional batt. It would have been obvious to one of ordinary skill in the papermakers' felt art at the time the invention was made to form the fiber felt of the prior art, wherein the fiber felt comprises an upper and a lower batt layer, as taught by Gstrein, motivated by the desire of forming a conventional fiber felt having a structure known in the art to be predictably suitable for use in fiber felts, wherein varying the thickness, denier and material of the batt fibers varies the desired performance properties of the overall fiber felt.

Regarding claims 10-13, Diehl does not appear to teach that the set of top machine direction yarns includes upper and lower to machine direction yarns interwoven with the cross machine direction yarns, such that the felt is a triplex felt. However, Gstrein teaches that it was known in the papermakers' felt art to form a substantially similar fiber felt as Diehl, as set forth above, wherein the base fabric comprises a single layer fabric or triplex fabric, and that one of ordinary skill in this art will recognize that each of the type of fabric constructions can be employed (Id., column 4 lines 21-34). It would have been obvious to one of ordinary skill in the fiber felt art at the time the invention was made to form the fiber felt of the prior art, wherein the fiber felt comprises a single layer fabric or a triplex fabric, as taught by Gstrein, motivated by the desire of forming a conventional fiber felt with constructions known in the art to be functionally equivalent and predictably suitable for use in fiber felts based on the desired application and its suitability for the intended use.

Regarding claims 11 and 12, the prior art teaches that in each repeat unit, each cross machine direction yarn forms two knuckles below bottom machine direction yarns (Diehl, Figures 4 and 5).

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Regarding claim 12, the prior art teaches that the knuckles are separated by one bottom machine direction yarn (Id., Figures 4 and 5).

Regarding claim 13, the prior art teaches that in each repeat unit, only one knuckle is formed by a cross machine direction yarn over each upper top machine direction yarn (Id., Figures 4 and 5).

Regarding claims 37-40, Diehl teaches a fiber felt, comprising a fabric including a set of fine top machine direction yarns, a set of coarse bottom machine direction yarns, and a single set of cross machine direction yarns, the cross machine direction yarns being fine cross machine direction yarns, each of the set of cross machine direction yarns in a plurality of repeat units, and a batt layer overlying and attached to the set of top machine direction yarns of the fabric (see entire document including column 1 line 5 to column 2 line 51, column 3 line 6 to column 4 line 41, column 5 lines 4-11, Figures 1-5). It should be noted that claim 1 recites the transitional phrase “comprising.” The transitional term “comprising”, which is synonymous with “including,” “containing,” or “characterized by,” is inclusive or open-ended and does not exclude additional, unrecited elements or method steps.

Regarding claims 37-40, Diehl does not appear to teach that the set of top machine direction yarns includes upper and lower to machine direction yarns interwoven with the cross machine direction yarns, such that the felt is a triplex felt. However, Gstrein teaches that it was known in the papermakers' felt art to form a substantially similar fiber felt as Diehl, as set forth above, wherein the base fabric comprises a single layer fabric or triplex fabric, and that one of ordinary skill in this art will recognize that each of the type of fabric constructions can be employed (Id., column 4 lines 21-34). It would have been obvious to one of ordinary skill in the

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fiber felt art at the time the invention was made to form the fiber felt of the prior art, wherein the fiber felt comprises a single layer fabric or a triplex fabric, as taught by Gstrein, motivated by the desire of forming a conventional fiber felt with constructions known in the art to be functionally equivalent and predictably suitable for use in fiber felts based on the desired application and its suitability for the intended use.

Regarding claims 37-40, the prior art does not specifically teach that the fiber felt is a fiber cement felt. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. Since the prior art teaches a substantially similar structure and composition as the claimed invention, the invention of the prior art appears to be capable of performing the intended use and therefore, the claimed invention is anticipated by or obvious over the prior art.

Regarding claims 38 and 39, the prior art teaches that in each repeat unit, each cross machine direction yarn forms two knuckles below bottom machine direction yarns (Diehl, Figures 4 and 5).

Regarding claim 39, the prior art teaches that the knuckles are separated by one bottom machine direction yarn (Id., Figures 4 and 5).

Regarding claim 40, the prior art teaches that in each repeat unit, only one knuckle is formed by a cross machine direction yarn over each upper top machine direction yarn (Id., Figures 4 and 5).

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5. Claims 1-8, 10-13 and 37-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Diehl in view of USPN 4,503,113 to Smart.

Regarding claims 1-8 and 10-13, Diehl appears to teach a fiber felt, comprising a fabric including a set of fine top machine direction yarns, a set of coarse bottom machine direction yarns, and a single set of cross machine direction yarns, the cross machine direction yarns being fine cross machine direction yarns, the cross machine direction yarns being interwoven with the top and bottom machine direction yarns in a plurality of repeat units, wherein each of the cross machine direction yarns interweaves with both top and bottom machine direction yarns, and a batt layer overlying and attached to the set of top machine direction yarns of the fabric (see entire document including column 1 line 5 to column 4 line 41, column 5 lines 4-11, Figures 1-5). It should be noted that claim 1 recites the transitional phrase “comprising.” The transitional term “comprising”, which is synonymous with “including,” “containing,” or “characterized by,” is inclusive or open-ended and does not exclude additional, unrecited elements or method steps.

Additionally, Smart teaches that it was known in the papermakers' felt to form a substantially similar structure as the prior art comprising top and bottom machine direction yarns interwoven with cross-machine direction yarns (Smart, column 1 lines 6-68, column 2 line 11 to column 3 line 50, Example 1). Smart teaches that the top machine direction yarns provide load bearing strength for the felt and are made from small diameter and finer fibers than the coarse bottom layer. Smart teaches that the top machine direction yarns and coarse bottom machine direction yarns makes the pressure exerted by the felt more nearly uniform and the felt is more efficient as a water removal device since a greater portion of the surface area of the paper is effectively exposed to the pressure being exerted upon it by the felt.

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When a work is available in one field, design incentives and other market forces can prompt variations of it, either in the same field or in another. If a person of ordinary skill in the art can implement a predictable variation, and would see the benefit of doing so, §103 likely bars its patentability. Moreover, if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond that person's skill.

One of ordinary skill in the art at the time the invention was made, when viewing the state of the art and the predictable improvements in structures known in the art, would be motivated to improve the structure of the prior art, with the processes and structure taught by Smart, since the improvements of Smart were known to one of ordinary skill in the art and it would have predictably improved similar articles in the same way. In the present case, it would have been obvious to one of ordinary skill in the fiber felt art at the time the invention was made to form the fiber felt of the prior art, with the top machine direction layer and bottom machine direction layer, as taught by Smart, motivated by the desire of forming a conventional fiber felt with structures known in the art to be predictable improvements such that the pressure exerted by the fiber felt is more nearly uniform and the fiber felt is more efficient as a water removal device since a greater portion of the surface area of the paper is effectively exposed to the pressure being exerted upon it by the felt.

Regarding claims 1-8 and 10-13, the prior art does not specifically teach that the fiber felt is a fiber cement felt. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or

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structural limitations are able to stand alone. Since the prior art teaches a substantially similar structure and composition as the claimed invention, the invention of the prior art appears to be capable of performing the intended use and therefore, the claimed invention is anticipated by or obvious over the prior art.

Regarding claim 2, the prior art teaches that the bottom machine direction yarns are twists selected from the group consisting of spun yarns, cross-linked yarns, multifilaments, core wrapped yarns, and combinations thereof (Diehl, column 4 lines 11-25; Smart, Example 1).

Regarding claim 3, the prior art teaches that the bottom machine direction yarns are sized between about 300 and 4,500 dtex (Diehl, column 4 lines 11-25; Smart, Example 1).

Regarding claims 4-7, Diehl does not appear to teach that the cross machine direction yarns are selected from the group consisting of single monofilaments and monofilament twists with the claimed diameter, and that the top machine direction yarns are selected from the group consisting of single monofilaments and monofilaments twists with the claimed diameter. Since Diehl is silent as to the type of yarns and the diameters of the yarns, it would have been necessary and therefore obvious to look to the prior art for conventional types of yarns and diameters of those yarns. Smart provides this conventional teaching, showing that it was known in the art to form a substantially similar papermakers' felt comprising top and bottom machine direction yarns interwoven with cross machine direction yarns (Smart, column 1 lines 6-68, column 2 line 11 to column 3 line 50, Example 1). Smart teaches monofilament or twisted machine direction yarns having a diameter about 0.028" and monofilament or twisted cross-machine direction yarns having a diameter about 0.021". It would have been obvious to one of ordinary skill in the papermakers' felt art at the time the invention was made to form the fiber felt

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of the prior art, wherein the yarns comprise monofilament yarns or twisted filaments having the diameters as taught by Smart, motivated by the desire of forming a conventional fiber felt with types of yarns and yarn diameters known in the fiber felt art to be predictably suitable in forming felts such that the pressure exerted by the fiber felt is more nearly uniform and the fiber felt is more efficient as a water removal device since a greater portion of the surface area of the paper is effectively exposed to the pressure being exerted upon it by the fiber felt.

Regarding claim 8, the prior art teaches that the ratio of top machine direction yarns to bottom machine direction yarns is between 2:1 and 5:1 (Diehl, column 3 lines 30-36; Smart, column 2 lines 43-52).

Regarding claims 10-13, Diehl does not appear to teach that the set of top machine direction yarns includes upper and lower top machine direction yarns interwoven with the cross machine direction yarns, such that the felt is a triplex felt. However, Smart teaches that it was known in the papermakers' felt to form a substantially similar structure as the prior art comprising top and bottom machine direction yarns interwoven with cross-machine direction yarns (Smart, column 1 lines 6-68, column 2 line 11 to column 3 line 50, Example 1). Smart teaches that the top machine direction yarns comprise two layers that provide load bearing strength for the felt and are made from small diameter and finer fibers than the coarse bottom layer. Smart teaches that the two upper fine layers provide more load bearing strength than would a single fine layer.

When a work is available in one field, design incentives and other market forces can prompt variations of it, either in the same field or in another. If a person of ordinary skill in the art can implement a predictable variation, and would see the benefit of doing so, §103 likely bars

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its patentability. Moreover, if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond that person's skill.

One of ordinary skill in the art at the time the invention was made, when viewing the state of the art and the predictable improvements in structures known in the art, would be motivated to improve the structure of the prior art, with the processes and structure taught by Smart, since the improvements of Smart were known to one of ordinary skill in the art and it would have predictably improved similar articles in the same way. In the present case, it would have been obvious to one of ordinary skill in the fiber felt art at the time the invention was made to form the fiber felt of the prior art, wherein the top machine layer comprises upper and lower layers, as taught by Smart, motivated by the desire of forming a conventional fiber felt with structures known in the art to be predictable improvements such that the top machine layer provides more load bearing strength.

Regarding claims 11 and 12, the prior art teaches that in each repeat unit, each cross machine direction yarn forms two knuckles below bottom machine direction yarns (Diehl, Figures 4 and 5).

Regarding claim 12, the prior art teaches that the knuckles are separated by one bottom machine direction yarn (Id., Figures 4 and 5).

Regarding claim 13, the prior art teaches that in each repeat unit, only one knuckle is formed by a cross machine direction yarn over each upper top machine direction yarn (Id., Figures 4 and 5).

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Regarding claims 37-40, Diehl appears to teach a fiber felt, comprising a fabric including a set of fine top machine direction yarns, a set of coarse bottom machine direction yarns, and a single set of cross machine direction yarns, the cross machine direction yarns being fine cross machine direction yarns, each of the set of cross machine direction yarns in a plurality of repeat units, and a batt layer overlying and attached to the set of top machine direction yarns of the fabric (see entire document including column 1 line 5 to column 2 line 51, column 3 line 6 to column 4 line 41, column 5 lines 4-11, Figures 1-5). It should be noted that claim 1 recites the transitional phrase “comprising.” The transitional term “comprising”, which is synonymous with “including,” “containing,” or “characterized by,” is inclusive or open-ended and does not exclude additional, unrecited elements or method steps.

Additionally, Smart teaches that it was known in the papermakers’ felt to form a substantially similar structure as the prior art comprising top and bottom machine direction yarns interwoven with cross-machine direction yarns (Smart, column 1 lines 6-68, column 2 line 11 to column 3 line 50, Example 1). Smart teaches that the top machine direction yarns provide load bearing strength for the felt and are made from small diameter and finer fibers than the coarse bottom layer. Smart teaches that the top machine direction yarns and coarse bottom machine direction yarns makes the pressure exerted by the felt more nearly uniform and the felt is more efficient as a water removal device since a greater portion of the surface area of the paper is effectively exposed to the pressure being exerted upon it by the felt.

When a work is available in one field, design incentives and other market forces can prompt variations of it, either in the same field or in another. If a person of ordinary skill in the art can implement a predictable variation, and would see the benefit of doing so, §103 likely bars

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its patentability. Moreover, if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond that person's skill.

One of ordinary skill in the art at the time the invention was made, when viewing the state of the art and the predictable improvements in structures known in the art, would be motivated to improve the structure of the prior art, with the processes and structure taught by Smart, since the improvements of Smart were known to one of ordinary skill in the art and it would have predictably improved similar articles in the same way. In the present case, it would have been obvious to one of ordinary skill in the fiber felt art at the time the invention was made to form the fiber felt of the prior art, with the top machine direction layer and bottom machine direction layer, as taught by Smart, motivated by the desire of forming a conventional fiber felt with structures known in the art to be predictable improvements such that the pressure exerted by the fiber felt is more nearly uniform and the fiber felt is more efficient as a water removal device since a greater portion of the surface area of the paper is effectively exposed to the pressure being exerted upon it by the fiber felt.

Regarding claims 37-40, Diehl does not appear to teach that the set of top machine direction yarns includes upper and lower to machine direction yarns interwoven with the cross machine direction yarns, such that the felt is a triplex felt. However, Smart teaches that it was known in the papermakers' felt to form a substantially similar structure as the prior art comprising top and bottom machine direction yarns interwoven with cross-machine direction yarns (Smart, column 1 lines 6-68, column 2 line 11 to column 3 line 50, Example 1). Smart teaches that the top machine direction yarns comprise two layers that provide load bearing

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strength for the felt and are made from small diameter and finer fibers than the coarse bottom layer. Smart teaches that the two upper fine layers provide more load bearing strength than would a single fine layer.

When a work is available in one field, design incentives and other market forces can prompt variations of it, either in the same field or in another. If a person of ordinary skill in the art can implement a predictable variation, and would see the benefit of doing so, §103 likely bars its patentability. Moreover, if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond that person's skill.

One of ordinary skill in the art at the time the invention was made, when viewing the state of the art and the predictable improvements in structures known in the art, would be motivated to improve the structure of the prior art, with the processes and structure taught by Smart, since the improvements of Smart were known to one of ordinary skill in the art and it would have predictably improved similar articles in the same way. In the present case, it would have been obvious to one of ordinary skill in the fiber felt art at the time the invention was made to form the fiber felt of the prior art, wherein the top machine layer comprises upper and lower layers, as taught by Smart, motivated by the desire of forming a conventional fiber felt with structures known in the art to be predictable improvements such that the top machine layer provides more load bearing strength.

Regarding claims 37-40, the prior art does not specifically teach that the fiber felt is a fiber cement felt. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the

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claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. Since the prior art teaches a substantially similar structure and composition as the claimed invention, the invention of the prior art appears to be capable of performing the intended use and therefore, the claimed invention is anticipated by or obvious over the prior art.

Regarding claims 38 and 39, the prior art teaches that in each repeat unit, each cross machine direction yarn forms two knuckles below bottom machine direction yarns (Diehl, Figures 4 and 5).

Regarding claim 39, the prior art teaches that the knuckles are separated by one bottom machine direction yarn (Id., Figures 4 and 5).

Regarding claim 40, the prior art teaches that in each repeat unit, only one knuckle is formed by a cross machine direction yarn over each upper top machine direction yarn (Id., Figures 4 and 5).

Regarding claim 41, Diehl appears to teach a fiber felt comprising a fabric including a set of fine top machine direction yarns, a set of coarse bottom machine direction yarns, and a single set of cross machine direction yarns, the cross machine direction yarns being fine yarns, interwoven with the top and bottom machine direction yarns in a plurality of repeat units, and a batt overlying and attached to the set of top machine direction yarns of the fabric (see entire document including column 1 line 5 to column 4 line 41, column 5 lines 4-11, Figures 1-5). It should be noted that claim 1 recites the transitional phrase “comprising.” The transitional term “comprising”, which is synonymous with “including,” “containing,” or “characterized by,” is inclusive or open-ended and does not exclude additional, unrecited elements or method steps.

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Additionally, Smart teaches that it was known in the papermakers' felt to form a substantially similar structure as the prior art comprising top and bottom machine direction yarns interwoven with cross-machine direction yarns (Smart, column 1 lines 6-68, column 2 line 11 to column 3 line 50, Example 1). Smart teaches that the top machine direction yarns provide load bearing strength for the felt and are made from small diameter and finer fibers than the coarse bottom layer. Smart teaches that the top machine direction yarns and coarse bottom machine direction yarns makes the pressure exerted by the felt more nearly uniform and the felt is more efficient as a water removal device since a greater portion of the surface area of the paper is effectively exposed to the pressure being exerted upon it by the felt.

When a work is available in one field, design incentives and other market forces can prompt variations of it, either in the same field or in another. If a person of ordinary skill in the art can implement a predictable variation, and would see the benefit of doing so, §103 likely bars its patentability. Moreover, if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond that person's skill.

One of ordinary skill in the art at the time the invention was made, when viewing the state of the art and the predictable improvements in structures known in the art, would be motivated to improve the structure of the prior art, with the processes and structure taught by Smart, since the improvements of Smart were known to one of ordinary skill in the art and it would have predictably improved similar articles in the same way. In the present case, it would have been obvious to one of ordinary skill in the felt art at the time the invention was made to form the felt of the prior art, with the top machine direction layer and bottom machine direction

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layer, as taught by Smart, motivated by the desire of forming a conventional fiber felt with structures known in the art to be predictable improvements such that the pressure exerted by the fiber felt is more nearly uniform and the fiber felt is more efficient as a water removal device since a greater portion of the surface area of the paper is effectively exposed to the pressure being exerted upon it by the fiber felt.

Regarding claim 41, Diehl does not appear to teach that the ratio of top machine direction yarns to bottom machine direction yarns is between 3:1 and 5:1. However, Smart teaches that it was known in the papermakers' felt to form a substantially similar structure as Diehl comprising top and bottom machine direction yarns interwoven with cross-machine direction yarns (Smart, column 1 lines 6-68, column 2 line 11 to column 3 line 50, Example 1). Smart teaches that the ratio of yarns between the top layer and the bottom layer is between 2:1 and 4:1. It would have been obvious to one of ordinary skill in the papermakers' felt art at the time the invention was made to form the felt of the prior art, wherein the ratio of yarns is between 2:1 and 4:1, as taught by Smart, motivated by the desire of forming a conventional felt with yarn ratios known in the art to predictably form a felt having upper layers with adequate load bearing strength and a bottom layer with adequate wear resistance.

Regarding claim 41, the prior art does not specifically teach that the fiber felt is a fiber cement felt. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. Since the prior art teaches a substantially similar structure and composition as the claimed invention, the invention of the prior art appears to be capable of

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performing the intended use and therefore, the claimed invention is anticipated by or obvious over the prior art.

6. Claims 9-13 and 37-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Diehl in view of Smart, as applied to claims 1-8, 10-13 and 37-41 above, and further in view of Gstrein.

Regarding claim 9, the prior art does not appear to teach that the fiber felt further comprises a batt layer attached to and underlying the bottom machine direction yarns. However, Gstrein teaches that it was known in the papermakers' felt art to form a substantially similar fiber felt as the prior art, as set forth above, wherein the felt comprises an upper batt layer overlying the base fabric and a lower batt layer underlying the base fabric (Gstrein, column 5 lines 21-40). Gstrein teaches that the thickness, denier and material of the batt fibers are typically selected for their contribution to the desired performance properties of the overall felt (Id., column 1 lines 48-52). Additionally, naturally flows from the teachings of the prior art that applying multiple layers of batts to the felt provides uniform qualities of strength and stability while additionally varying the drainage of the felt due to the inclusion of an additional batt. It would have been obvious to one of ordinary skill in the papermakers' felt art at the time the invention was made to form the fiber felt of the prior art, wherein the fiber felt comprises an upper and a lower batt layer, as taught by Gstrein, motivated by the desire of forming a conventional fiber felt having a structure known in the art to be predictably suitable for use in fiber felts, wherein varying the thickness, denier and material of the batt fibers varies the desired performance properties of the overall fiber felt.

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Regarding claims 10-13 and 37-40, Diehl in view of Smart appears to teach that the set of top machine direction yarns includes upper and lower top machine direction yarns interwoven with the cross machine direction yarns, such that the felt is a triplex felt. As further evidence, Gstrein teaches that it was known in the papermakers' felt art to form a substantially similar felt as Diehl, as set forth above, wherein the base fabric comprises a single layer fabric or triplex fabric, and that one of ordinary skill in this art will recognize that each of the type of fabric constructions can be employed (Id., column 4 lines 21-34). It would have been obvious to one of ordinary skill in the fiber felt art at the time the invention was made to form the fiber felt of the prior art, wherein the fiber felt comprises a single layer fabric or a triplex fabric, as taught by Gstrein, motivated by the desire of forming a conventional fiber felt with constructions known in the art to be functionally equivalent and predictably suitable for use in fiber felts based on the desired application and its suitability for the intended use.

Regarding claims 11 and 12, the prior art teaches that in each repeat unit, each cross machine direction yarn forms two knuckles below bottom machine direction yarns (Diehl, Figures 4 and 5).

Regarding claim 12, the prior art teaches that the knuckles are separated by one bottom machine direction yarn (Id., Figures 4 and 5).

Regarding claim 13, the prior art teaches that in each repeat unit, only one knuckle is formed by a cross machine direction yarn over each upper top machine direction yarn (Id., Figures 4 and 5).

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Regarding claims 38 and 39, the prior art teaches that in each repeat unit, each cross machine direction yarn forms two knuckles below bottom machine direction yarns (Diehl, Figures 4 and 5).

Regarding claim 39, the prior art teaches that the knuckles are separated by one bottom machine direction yarn (Id., Figures 4 and 5).

Regarding claim 40, the prior art teaches that in each repeat unit, only one knuckle is formed by a cross machine direction yarn over each upper top machine direction yarn (Id., Figures 4 and 5).

Response to Arguments

7. Applicants' arguments filed September 26, 2008, have been fully considered but they are not persuasive. Applicants argue that Diehl fails to disclose a single set of CMD yarns. Examiner respectfully disagrees. As set forth above, claim 1 recites the transitional phrase "comprising." The transitional term "comprising", which is synonymous with "including," "containing," or "characterized by," is inclusive or open-ended and does not exclude additional, unrecited elements or method steps. Diehl teaches a single set of cross-machine direction yarns comprising fine yarns (Diehl, column 3 lines 37-53). Additionally, as set forth above, the claims do not preclude the inclusion of additional elements. Additionally, Applicants' specification does not set forth objective or quantitative characteristics which necessarily distinguish "coarse" from "fine." Additionally, although Applicants may be their own lexicographer, Applicants' specification does not appear to define "coarse" or "fine." Since Diehl teaches a substantially

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similar structure and composition as the claimed invention, the claimed invention appears to be anticipated by or obvious over the prior art.

Applicants argue that Diehl does not suggest a fabric in which each of the cross-machine direction yarns interweaves with the top and bottom machine direction yarns. Examiner respectfully disagrees. As shown in Figures 1-5, the cross machine yarns interweave with the top and bottom machine yarns (*see also* Diehl, column 3 lines 6-53).

Applicants appear to argue that a felt for a fiber cement machine is different from press felt for a papermaking machine. Examiner respectfully disagrees. As set forth above, a preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. Although Applicants argue that a fiber cement felt experiences considerably different environmental conditions and has quite dissimilar performance parameters than a papermaking felt, Applicants are not claiming the fiber cement felt in conjunction with environmental conditions, such as a method of using the fiber cement felt. Additionally, Applicants do not claim various performance parameters associated with the fiber cement felt other than the dtex of the bottom machine direction fibers. Therefore, Applicants' arguments are not commensurate in scope with the claimed invention. Since the prior art teaches a substantially similar structure and composition as the claimed invention, the invention of the prior art appears to be capable of performing the intended use and therefore, the claimed invention is anticipated by or obvious over the prior art.

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Applicants appear to be arguing Section 103(a) rationale regarding the rejection based on Diehl. It should be noted that the rejection based on Diehl in the Non-Final Rejection of February 8, 2008, is a rejection based only on 35 U.S.C. 102(b). Therefore, Applicants' arguments are not commensurate in scope with the rejection. However, since Applicants' arguments pertain to the currently rejected claims, they will be addressed.

Applicants argue that the proper inquiry is whether it would have been obvious to a designer of fiber cement felts to conceive the subject matter of claim 1 based on the teachings of Diehl. Examiner respectfully disagrees. Applicants appear to only narrowly tailor the subject matter of the claimed invention to only fiber cement felts. However, as set forth above, the recitation of the invention as a "fiber cement felt" is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. Applicants do not set forth structural limitations in the specification related to fiber cement felts such that the recitation of "fiber cement felt" in the preamble necessarily distinguishes fiber cement felts from fiber felts. As such the structural limitations in the claim are able to stand alone and interpreted broadly.

Additionally, the subject matter of the claimed invention is not narrowly tailored as to only encompass specifically fiber felts used in and only in fiber cement felts. For example, the subject matter encompasses felts and fiber felts, or broadly, fabrics.

Additionally, as noted by the previous Examiner, nearly all of the references cited in Applicants' IDS of January 14, 2004, related to papermaking felts. Thus, it is presumed that

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Applicants' agree that papermaking felts comprise pertinent prior art in relation to the claimed invention.

Applicants argue that Gstrein does not disclose or suggest a triple layer fabric that has only one set of cross-machine direction yarns. Examiner respectfully disagrees. Gstrein is only relied on to teach the use of triplex fabrics. The limitation requiring the set of cross-machine direction yarns is taught by Diehl.

Applicants argue that Smart does not teach cross-machine direction yarns interweaving with all of the different levels of machine direction yarns. Examiner respectfully disagrees. Smart is not relied on to teach interweaving the cross-machine direction yarns with all of the different levels of machine direction yarns. The limitation teaching interweaving the cross-machine direction yarns with all of the different levels of machine direction yarns is taught by Diehl. Smart is relied on to teach that it was known in the papermakers' felt to form a substantially similar structure as Diehl comprising top and bottom machine direction yarns interwoven with cross-machine direction yarns (Smart, column 1 lines 6-68, column 2 line 11 to column 3 line 50, Example 1). Smart teaches that the ratio of yarns between the top layer and the bottom layer is between 2:1 and 4:1. It would have been obvious to one of ordinary skill in the papermakers' felt art at the time the invention was made to form the felt of the prior art, wherein the ratio of yarns is between 2:1 and 4:1, as taught by Smart, motivated by the desire of forming a conventional felt with yarn ratios known in the art to predictably form a felt having upper layers with adequate load bearing strength and a bottom layer with adequate wear resistance. Therefore, it would have been obvious to one of ordinary skill in the fiber felt art at the time the invention was made to form the fiber felt of the prior art, with the top machine

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direction layer and bottom machine direction layer, as taught by Smart, motivated by the desire of forming a conventional fiber felt with structures known in the art to be predictable improvements such that the pressure exerted by the fiber felt is more nearly uniform and the fiber felt is more efficient as a water removal device since a greater portion of the surface area of the paper is effectively exposed to the pressure being exerted upon it by the fiber felt.

Conclusion

8. Applicants' amendment necessitated the new grounds of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to PETER Y. CHOI whose telephone number is (571)272-6730. The examiner can normally be reached on Monday - Friday, 08:00 - 15:00.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Larry Tarazano can be reached on (571) 272-1515. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Peter Y Choi /PYC/
Examiner, Art Unit 1794

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Primary Examiner, Art Unit 1794